Role of banks in housing finance

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July 2005

ROLE OF BANKS IN HOUSING FINANCE

Housing Finance is considered as a safest mode of investment for financial institutions. This avenue of investment provides greater flexibility in making financial agreements and contracts, easily adjustable with the Islamic principles, widely applicable in pure capitalistic societies; meet the requirements of strictly controlled economies, and also feasible for the non-traditional immigrants-based societies. In highly industrialized economies, the workers' immigration form one city (or country) to another city (or country) is a common phenomenon. In those societies, people prefer to lease a house instead by its acquisition on ownership basis. In pure capitalistic societies, housing finance is used as a mode of long-term investment. In centrally controlled and planned economies, the housing finance is used for planning and development purposes. In the interest-free Islamic economies the housing finance gives an opportunity to the investors and financial institutions to participate in the rental income and capital gains from the properties.

It is noteworthy that housing finance is not simply a matter of funds transfer form lender to borrower; it has multi dimensional aspects. There are several related parties including investors, tenants, town planners and development authorities, local statesmen and politicians, construction and related industries, providers of utility and civic cervices, local administration and many other relevant parties. No doubt, it has financial importance and the housing finance institutions test the profitability and feasibility of every agreement for housing finance.

Housing has also some socio-economic aspects. Those aspects have great importance in the context of Pakistan, USA, Canada and Israel. The importance of housing finance in Canada and USA is because of the heavy inflow of immigrants. Pakistan and Israel are considered as ideological states and the housing requirements in those countries are directly concerned with the structural changes in the historical population in their geographical locations. The structure and size of population and housing requirements in those countries were affected when they came into existence. Those structural changes belong to the heavy inflow of migrants from the other parts of the world. Because of this obvious reason, the governments in those countries have been involving in the planning and development of housing finance strategies.

In Pakistan this issue was initially tackled with the formation of the House Building Finance Corporation (HBFC) through Housing Finance Act 1952.

Housing Finance Companies: Some Experiences

Before the emergence of new housing companies, HBFC has been enjoying monopoly power in housing finance in Pakistan, as commercial banks were not allowed to enter the activities. Since its inception in 1952, to November 2002 (50 years) the HBFC has provided finance of over Rs.29 billion for the construction and purchase of over 400,000 housing units.

At the end of 1990s, it was observed that Housing Finance Companies (HFCs) in Pakistan were on losing front, as their share in total assets of Non-Banking Financial Institutions (NBFIs) had declined from 12 percent in 1989-90 to 6 percent in 199-2000. Although, total assets of HFCs increased from Rs.16 billion to 22 billion, the growth was lower as compared to other NBFIs. Asset shares of these companies indicate that new entrant remained unable to provide any major change in housing finance. Growth rates in capital remained higher than the growth rate of assets. (SBP: 2003)

Non-performing loans to total assets ratio showed a significant increase in 1990s. The earning assets to total assets ratio has also declined from 91 percent in 1989-90 to 78 percent in 1999-2000. Continuously increasing non-performing loans to gross advances ratio indicates the squeezed earning base of HFCs. The composition of earning assets has drastically increased, as the shares of investment in total earning assets has increased from 3 percent in 1989-90 to 34 percent in 1999-2000. This also implies that HFCs were not extending loans to housing. An interesting indicator is borrowing to advances ratio, which consistently remained over the mark of hundred percent. According to the Stat Bank of Pakistan, the HFCs are borrowing not only to finance their loans and advances but also to make other assets. It means that the HFCs do not have their own resource base to finance higher demand of housing sector. Borrowing to liability ratio of over 90 percent also strengthens this point. (**Appendix I to VI**).

The entire above-mentioned scenario justifies the entry of commercial banks in housing finance. In order to allow banks to have an active role in lending for mortgage purposes as envisaged in the National Housing Policy approved by the Federal Government, it was decided to activate a Housing Refinance Window at the Stat Bank of Pakistan, which would be operative through Housing Finance Corporations (HFCs) registered and functional in the private and public sectors. According to the guidelines issued by the State Bank of Pakistan banks are free to extend mortgage loans for construction of houses, up to a maximum period of fifteen years. The commercial banks would ensure matching of asset and liability. For this purpose, the commercial banks are encouraged to float long-term housing bonds not less than 10 years maturity. While extending financing facilities their customers, the banks would ensure that the installment of the loan extended by them is

commensurate with the cash flow and payment capacity of the borrower. This measure would be in addition to banks' usual evaluation of each proposal concerning credit worthiness of the borrowers as also the fact that the banks' portfolio under housing finance fulfill the prudential norms and instructions issued by the State Bank and do not impair the soundness and safety of the bank itself. According to the new policy, banks are encouraged to develop floating rate products for extending housing loans, thereby managing interest rate risk to avoid its adverse effects. Commercial banks shall ensure that at no time their total exposure under house financing exceeds 5 percent oaf their net advances. The housing finance facility would attract a minimum debt equity ratio of 70:30.

However, the profitability from investment in housing sector is a nexus of the rate of growth in the properties' values, returns on bank deposits, demand for housing for residential purposes, increase in the households incomes, magnitude of investment in housing sector, rental income from properties and many other financial, social and economic variables. Any change in social, political or economic front can disturb the flow of payments in this long-term mode of financing. The present structure of interest rates and rental incomes are not the only decisions factors, expected changes in the stream of rental incomes and interest rates in future are important relevant factors. A mismatch of rental incomes and interest rates can disturb the socio-political and economic structure of the society. The State Bank should draw upon the US experience where lenders exploited the applicants. Borrowers are trapped in debt because of the complicated structure of lending rates and expensive fees. Despite a strong economy and falling interest rates during 1990s, the rate for homes foreclosure rose fourfold. Now, the parliamentarians in the United States are looking to provide legal remedy to curb such predatory lending.

Four Dimensions of the Role of Banks in Housing Finance:

1) Bridging the Gap of Demand and Supply:

The house building and real estate sector is an area, which has tremendous scope for generating economic activity, as according to an estimate over 120 allied industries are directly or indirectly affiliated to the sector; the main ones being cement, stone crushing, bags, printing, trucking, wooding, doors and windows making, shuttering, glass, ceramics, pipe, paints and so on. It will provide employment for million of the peoples.

The share of housing sector in investment has increased from 4 percent to 6 percent in the decade ending 2000. However, the magnitude of housing finance at present is hardly Rs.3 to 4 billion per annum, which is less than 0.5 percent of the GDP. In the industrialized countries the housing and

construction sectors contribute more than 30 percent share in the GDP. In Malaysia and Thailand, about 60 percent of housing finance is provided by commercial banks and the rest by the specialized financial institutions.

According to a report prepared for the World Bank in 2001, total current housing stock in Pakistan is valued at Rs.1,700 billion and comprised 21 million units. The acquisition of a house requires a large outlay of money, which is out of the reach of a common people in Pakistan. It is estimated that more than 800,000 of urban houses are rented and fetched a rental of Rs.15 billion per annum (Rizvi: 2003)

The federal ministry of finance has estimated an annual demand of Rs.68 billion credits from construction industry. While, the annual demand for new housing units is estimated at over 700,000. However, due to financial constraints the annual construction of maximum number of housing units never exceeded 400,0000. As a result of this carried out backlog now, the country needs at least 6 million new houses to meet the shortfall. The House Building Finance Corporation (HBFC) could disburse loans of one billion rupees last year. The historical evidences show that HBFC is not in a position to fulfill the entire requirements of housing finance. Housing loans, mainly through the HBFC rarely exceeded 1.5 percent of the total investments in a single year. Two housing finance companies have closed down and the alone survivor is to be merged with a commercial bank. The housing finance is a retail business for foreign banks. Only the top corporate executives and upper incomes groups are served for this purpose. Moreover, the criteria, ceilings and other limitations to approve a loan application reflect the justification of housing finance through regular banking channels.

2) Utilization of Surplus Funds available with the Banks:

In last three years, the banks underwent great changes. For long, banks and particularly the nationalized commercial banks and the financial institutions have been focusing entirely on project financing or working capital (including trade financing). Those traditional modes of financing gave a huge portfolio of bad loans. In the present situation, the commercial banks have excess liquidity and looking for the borrowers, and there is a general trend of gradual decline in the lending rats in the country.

The lower lending rates, large liquidity with the banking system, growing competition among the banks and lower return on government securities were pushing the financial institutions towards new avenues such as consumer financing, personal loans, lending for SMEs, agriculture financing and targeting new customers. With lowering the interest rates and excess liquidity the banks now look housing finance as an avenue for profitable utilization of their money.

Incidentally, the Government of Pakistan has also given an incentive to promote housing loans by allowing individual's payments up to Rs.100, 000 per annum for such loans to be tax deductible. The SBP has already allowed banks to provide housing loans. In this context, BSD circular No.16 has raised the limit to Rs.5 million per case.

Table: 1

Year	Maximum Loan Limit by HBFC (Rs)
1953	10,000
1953	20,000
1954	40,000
1975	60,000
1978	100,000
1981	150,000
1987	200,000
1990	300,000
1991	400,000
1995	500,000
1997	1,000,000
1999	2,000,000
2003	5,000,000

3) Guided Interest Rate

The rates of return on the deposits of commercial banks give a benchmark for determination of other interest rates. Theoretically, the rate of return on deposits should be less than the rate of interest on commercial lending. The subsidized and concessionary interest rates on export financing, housing, BMR purposes and loan for SMEs should also be greater than the return on banks deposits. Investors always consider the return on deposits before making an investment decision. The rates of return on deposits are applied as opportunity (second best utilization of investable funds) cost. The marks up rates are based on a spread over the rates offered for savings schemes. In the next section of this study it is concluded that a guided rate of interest (return on deposits) is the most important dimension of the commercial banks' services for housing sector. This rate will affect the entire scenario of housing finance even if commercial banks do not participate in the housing loans' portfolio.

4) Return on Deposits:

Other than setting a benchmark for mark up on housing loans, the return on deposits plays another important role in determination of the patterns of

investment in housing sector. It is observed that rate of return on deposits has a U-shaped relation with the utilization of housing loans and the private investment in construction sector. This dimension of the banking functions will be discussed with details in next sections.

Econometric Modeling for the Strategy of Housing Finance:

It is assumed in this study that ownership of dwellings is an indicator of the demand for housing in monetary terms. For simplification purpose, we divided the sources of housing demand into two components namely,

1) Residential Demand
2) Speculative Demand

It is obvious that residential demand is directly related with the population (POP). So far as speculative demand is concerned it depends on the profitability in housing industry. An investor in housing sector will acquire a house only if return on property is greater than the return from other sources. To test this hypothesis we included population (POP) and the ratio of return on properties to average return on banks' deposits (CGDEP).

Many research studies on the supply of housing units consistently underline the role - at the macroeconomic level - of liquidity constraints. W hypothesized that housing loan facility (UTFND) is a catalysts for private investment in construction sector. In this study, we assumed that private investment in construction industry as a proxy of the monetary value of the supply of new housing units. To incorporate the effects of housing loan facility (UTFND) we incorporated this variable in the model. Rental income form housing properties (RENT) is a major cause of the induced investment in housing sector. In the estimation of private investment in construction industry, we applied rental income from residential houses (RENT) as an explanatory variable. The rental income is captured through a country-based index of housing rents. It can be concluded that any thing that can change the magnitude of utilization of housing loans (UTFND) will also change the overall investment in the construction industry.

Rental income form housing units (RENT) always plays an important role in the determination of investment patterns in the construction industry. It is a factor of induced investment in the construction industry and it also plays an important role in the determination of the utilization of housing loan facility. Rental income (RENT) is considered as an element of the value of property. It is usual postulate in accounting and taxation practices that value of properties are assessed on the basis of 20 years rental income from the property. So, we can use the change in rental income as a reflector of the change in property value. We considered the change in property value as capital gain or return

from properties. The capital gain from properties in comparison of return from bank deposits (CGDEP) is an important determinant for the ownership of dwellings and the utilization of housing loan facility. However, it has not linear relation with the utilization of housing loans facility. Return of Bank Deposits (RTDEP) is also included as a factor of the utilization of funds for housing.

We have tested and found that Gross National Product (GNP), interest on housing loans (INTHS) and the cost of construction (BLDG) are insignificant variables for the investment in construction and ownership of dwellings.

Data and Estimations:

To test the hypotheses we developed an econometric model. The simultaneity in the model has been shown in figure: I. The list of variables has been presented in figure: II. The complete model has been shown by figure: III.

We adopted a time series approach in the analysis and the annual data is used. The data have been extracted from a variety of sources, covers the period of 1991-2000. The data on the majority of variables was extracted from the annual Report of the State Bank of Pakistan (SBP: 2003) and Pakistan Economic Survey (Government of Pakistan: 2001). We simulated the data to measure the prediction power of the model. Ex-anti simulations have also been made for the fiscal years from 2000-01 to 2004-05.

To estimate the utilization of housing loan facility a non-linear model was estimated. After a trial and error approach and several testing applications, we concluded that return on deposits and the ratio of capital gain from housing properties to return on deposits have non-linear (quadratic) relations with the housing funds utilization. So, the estimated results show a non-linear equation for this variable. The statistical results and simulation analysis are presented in table: 6 and table: 7 respectively.

The results and conclusions mentioned in the next section are based on the assumption of normal economic conditions in the financial markets. Any big political or socio-economic change can disturb the parametric approach and model will not be useful in those abnormal conditions.

Results and Conclusions:

It was concluded that rental income from housing properties and housing loan facility are two important determinants of the private investment in construction. With some qualifications, the results indicate that housing policy affect the investment in construction sector. Results reveal some interesting and important findings. It was observed that increase in population by one million would generate the demand for Rs.1.4 billion for ownership of dwellings. Another important finding is that an increase in the ratio of Rental

Income from Housing Property to Return on Banks' Deposits (CGDP) by one point will generate the demand for Rs.2 billion for ownership of dwellings.

Private Investment in construction will increase by Rs.530 million by an upward change of 10 percent in the housing rents. If utilization of housing loans increases by Rs.1 million, the private investment in construction will increase by Rs.1 billion.

The simulation analysis provides some interesting results. The return on banks deposits is classified as a key policy variable for investment in housing. It is the important finding of this study that 'Return on Bank Deposits' play the most important role in determination of the patterns of housing industry in Pakistan. However, the returns on bank deposits have a non-linear (quadratic) relation with the investment in housing and the utilization of housing loans. The results show that utilization of housing loan facility and the investment in construction will be lower at moderate (6 to 8 percent) rate of interest on bank deposits. The investment in housing and the utilization of housing loan will be higher at the extreme levels of the rate of interest on bank deposits. Investment in housing sector in Pakistan would increase if banks reduce return on deposits from 7 percent to 5 percent. It is quite consist with the common phenomena. At the lower interest rates people will not deposit their savings into commercial banks; they will prefer to invest this money in real estates and other profitable projects. So, investment in housing sector will increase.

It is surprising that at an extreme higher return from banks' deposits will boost the investment in construction and the utilization of housing loans. Perhaps, it is because of the utilization of income from banks' deposits in other alternative projects to diversify the risk of fluctuations in returns.

If rental income from housing properties increases the investment in construction and the utilization of housing loan facility will also increase. However, at a higher rate of return on bank deposits the increase in investment will be lower. If rental income from properties increase from 5 percent to 10 percent, the investment in housing construction will increase by 23 percent and utilization of housing loan facility will increase by 7 percent, at a level of 5 percent return on bank deposits. However, situation wills be different if commercial banks are offering a 10 percent return on deposits. In this situation, if rental income increases from 5 percent to 10 percent, the investment in construction will increase by 7 percent only and the utilization of housing loan facility will increase by 4 percent only.

Return on bank deposits has a U-shaped relation with the utilization housing loans. At the initial stage of increase in the rate of return on banks deposits, the utilization of housing funds starts to increase, after a certain (optimal or

peak) level it start to decline. It means at both the extremes of interest rates (extremely low interest rates and extremely high interest rates), the public will utilize low financing for housing projects. However, at a moderate level (which may vary from economy to economy) people will demand more funds for housing finance.

It is also envisaged that the ratio of capital gain on properties to return on banks deposits has an inverted U-shape relation with the utilization of funds from housing.

It is implied that the Housing Finance companies and banking sector can find an equilibrium rate of return on deposits by simultaneous determination of the utilization of housing loans and supply of the funds. The results are also useful in determination of equilibrium ratio of the rental income to return on deposits. An optimal rate of return on bank deposits can be found in response of a return on housing property.

FIGURE: I
PROPERTY VALUES, INTEREST RATES AND INVESTMENT IN HOUSING: STOCHASTIC REALTIONS' APPROACH

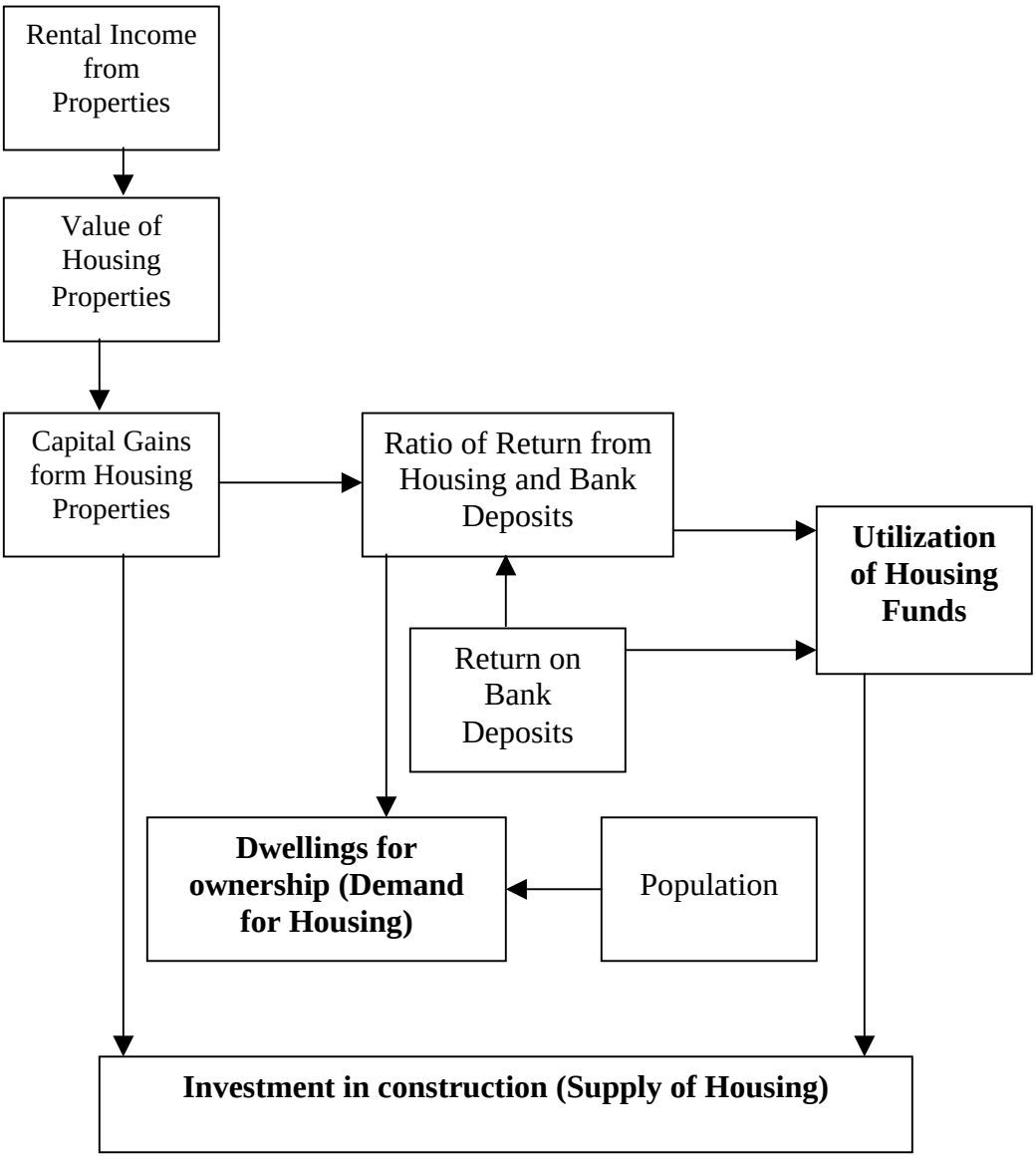

FIGURE: II
DESCRIPTION OF VARIABLES

No	Variable	Description
1	BLDG	Index for the cost of construction and building materials
2	CGDEP	Ratio of the capital gain on properties and return on banks' deposits
3	$CGDEP^2$	Square of the Ratio of the capital gain on properties and return on banks' deposits
4	CHGVAL	Annual change in the cost of construction and building material. This variables was taken as proxy of the change in the value of properties.
5	DEMAND	Annual private investment in the dwelling of ownership. It is applied as an indicator of the annual demand for housing units in the country.
6	GNP	Gross National Product at current factor cost (in million rupees)
7	INTHS	Weighted Average Interest Rates on the advances for housing.
8	POP	Population in million
9	RENT	Housing Rent Index
10	RTDEP	Weighted Average Rate of Return on banks' deposits
11	$RTDEP^2$	Square of the Weighted Average Rate of Return on banks' deposits
12	SUPPLY	Annual private investment in the construction sector. It is applied as an indicator of the annual supply of housing units in the country.
13	UTFND	Annual loans disbursed for housing.

FIGURE: III

1. CGDEP = (% Δ RENT/ RTDEP)
2. UTFND = f (CGDEP, $CGDEP^2$, RTDEP, $RTDEP^2$)
3. SUPPLY = f (RENT, UTFUND)
4. DEMAND = f (POP, CGDEP)

Table: 2
Socio Economic Indicators

Fiscal Year	Private Investment at current market Prices (Million Rupees)			Population	GNP at Current Factor (Million rupees)
	Construction	Ownership of Dwellings	Services: Real Estates		
1990-91	1,959	20,747	23	111	932,282
1991-92	4,306	23,759	26	114	1,090,480
1992-93	6,800	27,372	30	116	1,210,089
1993-94	8,225	30,470	37	119	1,416,846
1994-95	9,455	34,024	47	122	1,702,169
1995-96	10,697	38,730	54	125	1,944,424
1996-97	10,722	44,927	66	128	2,236,299
1997-98	12,073	49,182	70	132	2,456,520
1998-99	9,588	53,200	74	135	2,685,531
1999-00	11,271	56,093	78	138	2,869,138

Table: 3
Changes in Property Value and Return on Deposits

Fiscal Year	Weighted Average Return on Deposits	Housing Rents' Index	Cost of building and Construction's Index
1990-91	6.00	100	100
1991-92	6.15	111	105
1992-93	6.10	122	107
1993-94	6.00	134	123
1994-95	6.10	148	150
1995-96	6.60	162	161
1996-97	6.80	178	182
1997-98	6.81	195	182
1998-99	6.49	209	184
1999-00	5.47	218	179

Table: 4
Housing Finance: Cost of Funds

Fiscal Year	Total Assets (Billion/Rs)	Earning Assets to Total Assets	Interest Income to Total Assets	Interest Income (Billion Rs)	Interest Income to Total Income	Total Income (Billion Rs)	Utilization of Funds (Billion Rs)	Weighted Average Interest on Advances for Housings
1989-90	16.5	90.8	0.9	0.15	22.1	0.67	14.98	4.49
1990-91	16.7	91.8	0.6	0.10	20.7	0.48	15.33	3.16
1991-92	17.9	89.5	1.5	0.27	25.6	1.05	16.02	6.55
1992-93	18.6	89.7	2.0	0.37	28.6	1.30	16.68	7.80
1993-94	18.9	90.0	2.8	0.53	35.0	1.51	17.01	8.89
1994-95	19.4	88.4	3.6	0.70	41.5	1.68	17.15	9.81
1995-96	20.2	89.4	4.2	0.85	49.8	1.70	18.06	9.43
1996-97	20.4	89.8	4.8	0.98	52.6	1.86	18.32	10.16
1997-98	21.3	90.6	5.0	1.07	51.0	2.09	19.30	10.82
1998-99	21.5	70.1	5.1	1.10	67.4	1.63	15.07	10.79
1999-00	22.3	78.2	3.9	0.87	47.5	1.83	17.44	10.50

Table: 5
Return on Real Estates

Fiscal Year	% Change in Housing Rent	Capital gain on Real Estates to Interest on deposits Ratio	Cap gain on Real Estates to Interest on Housing loans Ratio
1990-91	13.64	2.27	4.32
1991-92	11.00	1.79	1.68
1992-93	9.91	1.62	1.27
1993-94	9.84	1.64	1.11
1994-95	10.45	1.71	1.06
1995-96	9.46	1.43	1.00
1996-97	9.88	1.45	0.97
1997-98	9.55	1.40	0.88
1998-99	7.18	1.11	0.67
1999-00	4.31	0.79	0.41

TABLE: 6
REGRESSION RESULTS
(SIMULTANEOUS EQUATIONS)

Equation # 1 Dependent Variable: Ownership of Dwelling (Demand for Housing)				
Independent Variable	**Coefficient**	**T-Statistics**	**Adjusted R-square**	**F-Statistics**
Intercept	-144363.0	-11.42	0.9952	936.59
POP	1444.4	17.92		
CGDEP	2040.7	1.10		
Equation # 2 Dependent Variable: Private Investment on Construction (Supply of Housing)				
Intercept	-19014.2	-3.96	0.8829	34.94
RENT	52.9	5.43		
UTFND	1126.1	3.7		
Equation # 3 Dependent Variable: Utilization of Funds issued for housing finance				
Intercept	339.5	5.4	0.8147	10.89
CGDEP	18.0	4.1		
$CGDP^2$	-5.3	-4.0		
RTDEP	-108.4	-5.2		
$RTDEP^2$	8.7	5.3		

TABLE: 7
Sensitivity Analysis

Fiscal Year	Ownership of Dwellings (DEMAND)	Population (POP)	Capital Gain to Return on Deposit (CGDEP)	Private Investment in Construction (SUPPLY)	Index of Housing Rents (RENT)	Loans for Housing (UTFUND)	Return on Bank Deposits (%) (RTDEP)
1990-91	20,747	111	2.00	1,959	100	15.33	6.00
1991-92	23,759	114	1.79	4,306	111	16.02	6.15
1992-93	27,372	116	1.62	6,800	122	16.68	6.10
1993-94	30,470	119	1.64	8,225	134	17.01	6.00
1994-95	34,024	122	1.71	9,455	148	17.15	6.10
1995-96	38,730	125	1.43	10,697	162	18.06	6.60
1996-97	44,927	128	1.45	10,722	178	18.32	6.80
1997-98	49,182	132	1.40	12,073	195	19.30	6.81
1998-99	53,200	135	1.11	9,588	209	15.07	6.49
1999-00	56,093	138	0.79	11,271	218	17.44	5.47
1990-91	20,047	111	2.00	4,924	100	16.56	6.00
1991-92	23,949	114	1.79	5,549	111	16.60	6.15
1992-93	26,503	116	1.62	6,285	122	16.74	6.10
1993-94	30,866	119	1.64	7,304	134	17.08	6.00
1994-95	35,349	122	1.71	7,679	148	16.75	6.10
1995-96	39,112	125	1.43	9,101	162	17.36	6.60
1996-97	43,484	128	1.45	11,797	178	19.00	6.80
1997-98	49,160	132	1.40	12,650	195	18.96	6.81
1998-99	52,889	135	1.11	9,294	209	15.32	6.49
1999-00	56,571	138	0.79	12,140	218	17.43	5.47
Projections: Population growth rate= 2.8 %; Increase in housing Rents= 10 %; Return on Bank Deposits= 5 %							
2000-01	62,586	142	1.00	23,995	229	27.44	5.00
2001-02	68,324	146	1.00	24,600	240	27.44	5.00
2002-03	74,222	150	1.00	25,236	252	27.44	5.00
2003-04	80,285	154	1.00	25,903	265	27.44	5.00
2004-05	86,518	158	1.00	26,604	278	27.44	5.00
Projections: Population growth rate= 2.8 %; Increase in housing Rents= 10 %; Return on Bank Deposits= 7 %							
2000-01	62,003	142	0.71	11,705	229	16.53	7.00
2001-02	67,740	146	0.71	12,310	240	16.53	7.00
2002-03	73,639	150	0.71	12,946	252	16.53	7.00
2003-04	79,702	154	0.71	13,613	265	16.53	7.00
2004-05	85,935	158	0.71	14,314	278	16.53	7.00

Projections: Population growth rate= 2.8 %; Increase in housing Rents= 10 %; Return on Bank Deposits= 10 %							
2000-01	61,566	142	0.50	141,382	229	131.68	10.00
2001-02	67,303	146	0.50	141,988	240	131.68	10.00
2002-03	73,201	150	0.50	142,623	252	131.68	10.00
2003-04	79,264	154	0.50	143,291	265	131.68	10.00
2004-05	85,497	158	0.50	143,992	278	131.68	10.00
Projections: Population growth rate= 2.8 %; Increase in housing Rents= 5 %; Return on Bank Deposits= 5 %							
2000-01	64,627	142	2.00	26,812	240	29.43	5.00
2001-02	70,364	146	2.00	28,081	264	29.43	5.00
2002-03	76,262	150	2.00	29,476	290	29.43	5.00
2003-04	82,326	154	2.00	31,011	319	29.43	5.00
2004-05	88,559	158	2.00	32,700	351	29.43	5.00
Projections: Population growth rate= 2.8 %; Increase in housing Rents= 5 %; Return on Bank Deposits= 7 %							
2000-01	63,461	142	1.43	17,571	240	21.22	7.00
2001-02	69,198	146	1.43	18,839	264	21.22	7.00
2002-03	75,096	150	1.43	20,234	290	21.22	7.00
2003-04	81,159	154	1.43	21,769	319	21.22	7.00
2004-05	87,392	158	1.43	23,458	351	21.22	7.00
Projections: Population growth rate= 2.8 %; Increase in housing Rents= 5 %; Return on Bank Deposits= 10 %							
2000-01	62,586	142	1.00	147,598	240	136.69	10.00
2001-02	68,324	146	1.00	148,866	264	136.69	10.00
2002-03	74,222	150	1.00	150,262	290	136.69	10.00
2003-04	80,285	154	1.00	151,797	319	136.69	10.00
2004-05	86,518	158	1.00	153,485	351	136.69	10.00

FIGURE: IV

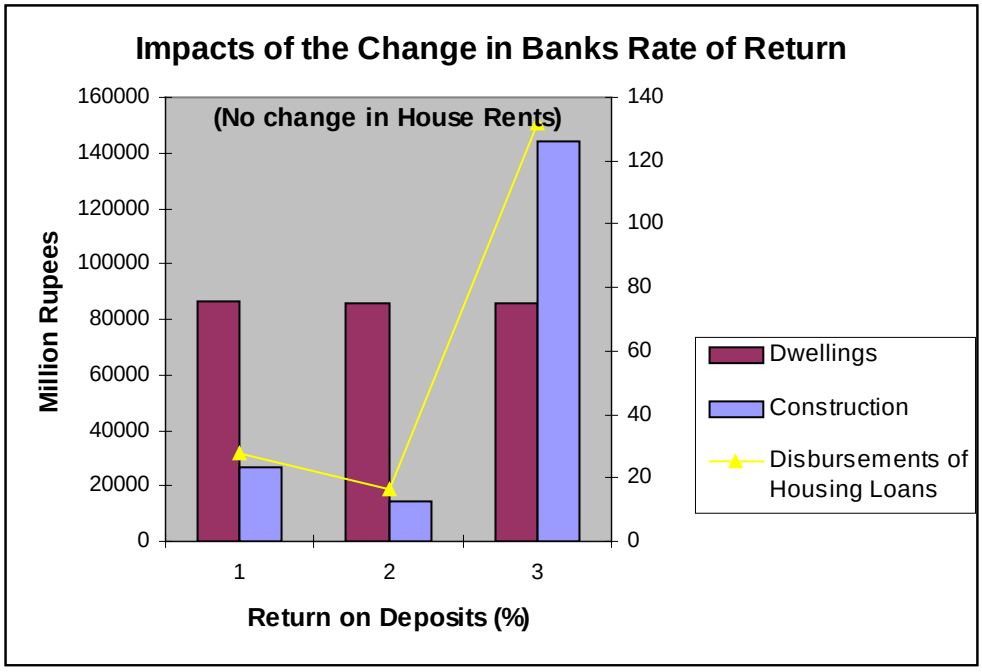

FIGURE: V

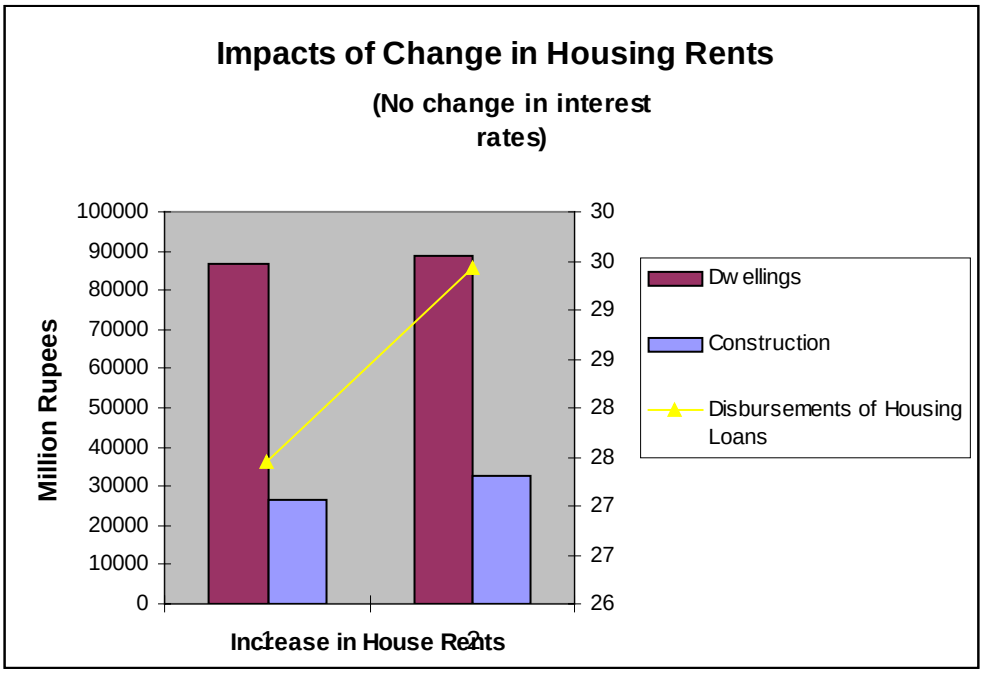

Table: 8
Impact of Chang in Return on Bank Deposits

Increase in the Return on 'Bank Deposits'	% Change in:		
	Ownership of Dwellings	Private Investment in Construction	Utilization of Housing Loans
From 5 % to 7 %	1 %	(-46 %)	(-40 %)
From 7 % to 10 %	1 %	906 %	697 %

Table: 9
Impact of Chang in Housing Rents

Rate of Return on Bank Deposits	% Change, if Rent increases from 5 % to 10 %:		
	Ownership of Dwellings	Private Investment in Construction	Utilization of Housing Loans
5 %	2.4 %	23 %	7 %
10 %	1.2 %	7 %	4 %

APPENDIX: I

Asset Share of Housing Finance Companies

Fiscal Year	Total Assets (Billion/Rs)	Growth Rate (%)	Assets Share (%)				
			HBFC	LTVHFL	IHFL	CHFCL	Total
1989-90	16.5		100.0	0.0	0.0	0.0	100.0
1990-91	16.7	1.2	100.0	0.0	0.0	0.0	100.0
1991-92	17.9	7.2	99.4	0.0	0.0	0.6	100.0
1992-93	18.6	3.9	98.7	0.0	0.4	0.9	100.0
1993-94	18.9	1.6	97.7	0.0	0.3	2.0	100.0
1994-95	19.4	2.6	97.0	0.3	0.3	2.4	100.0
1995-96	20.2	4.1	94.1	0.2	2.0	3.7	100.0
1996-97	20.4	1.0	94.6	0.2	2.0	3.2	100.0
1997-98	21.3	4.4	95.2	0.2	1.9	2.7	100.0
1998-99	21.5	0.9	95.9	0.2	2.0	1.9	100.0
1999-00	22.3	3.7	96.9	0.2	1.8	1.1	100.0

APPENDIX: II

CAMELS Indicators of Housing Finance Companies
Capital Adequacy

Fiscal Year	Capital to Liability Ratio	Growth Rate of Capital	Growth Rate of Assets	Ratio of GRC to GRA
1989-90	2.8	7.5	7.9	1.0
1990-91	3.3	18.2	1.5	12.1
1991-92	4.4	39.3	6.6	5.9
1992-93	3.4	-18.9	4.0	-4.7
1993-94	4.6	37.6	2.0	18.6
1994-95	6.4	39.0	2.6	14.8
1995-96	9.1	43.9	3.7	11.8
1996-97	11.9	29.5	1.0	28.8
1997-98	15.2	29.8	4.6	6.5
1998-99	18.3	18.6	1.1	16.5
1999-00	20.6	13.8	3.3	4.1

APPENDIX: III

Assets Quality

Fiscal Year	Earning Assts to Total Assets	NPLs to Gross Advances	NPLs to Total Assets	Advances to Earning Assets	Investment to Earning Assets
1989-90	90.8	4.3	3.8	97.0	3.0
1990-91	91.8	9.2	8.2	95.5	4.5
1991-92	89.5	13.2	11.1	90.7	9.3
1992-93	89.7	17.7	14.6	87.6	12.4
1993-94	90.0	22.6	18.1	84.0	16.0
1994-95	88.4	29.2	22.1	80.0	20.0
1995-96	89.4	35.8	26.4	75.5	24.5
1996-97	89.8	41.8	30.9	74.1	25.9
1997-98	90.6	50.4	35.8	69.3	30.7
1998-99	70.1	62.9	40.0	77.6	22.4
1999-00	78.2	69.3	41.7	65.5	34.5

APPENDIX: IV

Management Soundness

Fiscal Year	Total Expenses to Total Income	Earning per Employee	Operating Exp per Employee	Total Expenses per Employee
1989-90	41.3	0.4	0.2	0.2
1990-91	63.4	0.3	0.2	0.2
1991-92	19.7	0.7	0.1	0.1
1992-93	19.3	0.8	0.2	0.2
1993-94	21.4	1	0.2	0.2
1994-95	22.1	1	0.2	0.2
1995-96	27.9	1	0.2	0.3
1996-97	29.5	1.1	0.2	0.3
1997-98	30.3	1.3	0.3	0.4
1998-99	43.2	1.1	0.4	0.5
1999-00	31.8	1.3	0.4	0.4

APPENDIX: V

Earnings and Profitability

Fiscal Year	Return on Total Assets	Net Interest Margin	Interest Income to Total Assets	Net Income to Assets	Interest Expenses to Earning Assets	Interest Income to Total Income	Interest Expenses to Total Expenses	Provision for loan Losses to Total Assets
1989-90	0.1	0.9	0.9	3.9	0.1	22.1	4.0	1.0
1990-91	0.3	0.6	0.6	2.7	0.0	20.7	2.3	4.8
1991-92	0.5	1.6	1.5	5.4	0.1	25.6	5.4	5.8
1992-93	0.9	2.2	2.0	6.5	0.1	28.6	5.1	6.4
1993-94	1.5	2.9	2.8	7.1	0.2	35.0	11.0	7.0
1994-95	1.8	3.7	3.6	7.8	0.3	41.5	15.9	7.6
1995-96	2.2	4.1	4.2	7.3	0.6	49.8	21.6	8.6
1996-97	2.5	4.4	4.8	7.8	0.9	52.6	29.7	9.7
1997-98	3.1	4.9	5.0	8.4	0.7	51.0	20.3	10.5
1998-99	2.5	6.5	5.1	6.4	0.8	67.4	16.7	11.6
1999-00	2.2	4.5	3.9	7.1	0.5	47.5	13.9	11.3

APPENDIX: VI

Liquidity and Sensitivity to Market Risk

Fiscal Year	Liquid Assets to Total Assets	Borrowing to Advances	Borrowing to Liabilities	RSA to RSL	Gap to Capital Ratio	Gap to Total Assets
1989-90	4.7	105.6	95.7	97.6	-80.5	-2.2
1990-91	2.9	106.6	96.6	98.2	-51.8	-1.7
1991-92	5.3	111.4	94.4	99.0	-22.2	-0.9
1992-93	5.1	113.1	91.9	100.9	25.0	0.8
1993-94	15.2	118.0	93.3	100.9	17.3	0.8
1994-95	23.4	123.5	92.8	101.0	14.0	0.8
1995-96	22.9	127.5	93.9	102.9	30.8	2.6
1996-97	24.6	127.2	94.8	105.3	42.5	4.5
1997-98	20.5	128.4	92.9	111.8	72.3	9.6
1998-99	29.0	144.0	92.7	88.3	-59.9	-9.3
1999-00	30.8	148.0	91.4	102.3	10.2	1.7

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